

The Prevalence of Anemia in Chronic Inflammatory Bowel Disease during COVID-19: Experience of the Gastroenterology Department of the Moulay Ismail Meknes Military Hospital: About 70 Cases

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DOI: [10.36347/sjmcr.2023.v11i04.078](https://doi.org/10.36347/sjmcr.2023.v11i04.078)

| Received: 09.03.2023 | Accepted: 24.04.2023 | Published: 28.04.2023

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Abstract

Original Research Article

Inflammatory bowel diseases (IBD) include Crohn's disease and ulcerative colitis. IBD represents a pathology that evolves through relapses interspersed with remission. Anemia is the most common extra-intestinal complication in inflammatory bowel disease (IBD). Depending on the hemoglobin level, the anemia is mild, moderate or severe. It can affect quality of life and increase the hospitalization rate of patients. The reported prevalence of anemia in patients with IBD ranges from 6% to 74%. Although the causes of anemia in IBD are multifactorial, iron deficiency anemia remains the most common. Management is based on treating the disease and correcting the anemia with injectable iron. The aim of the work is to take stock of the prevalence and treatment of chronic anemia during IBD, as well as the impact of the covid19 period on the monitoring of this chronic pathology in our structure.

Keywords: Inflammatory bowel diseases (IBD), Megaloblastic anemia, hemoglobin, covid19, The ferritin assay.

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INTRODUCTION

Anemia is the most common extra-intestinal complication in inflammatory bowel disease (IBD) [1-3]. Depending on the hemoglobin level, the anemia is mild, moderate or severe [4]. It can affect the quality of life and increase the hospitalization rate of patients.

The reported prevalence of anemia in patients with IBD ranges from 6% to 74%. Although the causes of anemia in IBD are multifactorial, iron deficiency anemia remains the most common. The ferritin assay is the first-line test to look for iron deficiency. A ferritin value < 30 ng/ml reflects this deficiency in the absence of inflammation [1]. Management is based on treating the disease and correcting the anemia with injectable iron.

The aim of the work is to take stock of the prevalence and treatment of chronic anemia during IBD, as well as the impact of the covid 19 period on the monitoring of this chronic pathology in our structure.

MATERIALS AND METHODS

A prospective analytical study of twelve (12) months from July 1, 2020 to June 30, 2021 was

conducted at the Hepato-Gastro-Enterology Department of the Moulay Ismail Military Hospital in Meknes.

Were included in the study, patients admitted for IBD and having biological anemia during the study period.

Anemia has been defined according to the criteria of the World Health Organization (WHO), in patients whose hemoglobin (Hb) level is less than 13g/dl in men, less than 12g/dl in women. women and less than 11g/dl in pregnant women.

The anemia was severe for hemoglobin (Hb) < 8 g/dl, moderate for Hb between 8 and 10.9 g/dl and mild (Hb between 11 to 11.9 g/dl in women and 11 to 12 .9 g/dl in humans). Iron deficiency anemia was defined by anemia associated with low serum ferritin (less than 20 µg/l in men and 10 µg/l in women) and transferrin saturation coefficient less than 20%; inflammatory anemia was retained for anemia associated with high serum ferritin and a reduced transferrin saturation coefficient; Anemia associated with normal or decreased serum ferritin and decreased transferrin saturation coefficient defined the mixed origin (iron deficiency and inflammatory).

Citation: Tonguino Raymond Niouma, A. Chakir, H. Yousfi, S. Mrabti, T. Lamsiah. The Prevalence of Anemia in Chronic Inflammatory Bowel Disease during COVID-19: Experience of the Gastroenterology Department of the Moulay Ismail Meknes Military Hospital: About 70 Cases. Sch J Med Case Rep, 2023 Apr 11(4): 733-734.

The mean globular volume (MCV) made it possible to classify microcytic (MCV<82 fl), normocytic (MCV between 82-98 fl) and macrocytic (MCV>98 fl) anemia; mean corpuscular hemoglobin concentration (MCHC) to distinguish between normochromic (MCHC between 320-360 g/l) and hypochromic (MCHC <320g/l) anemia.

Megaloblastic anemia was defined by macrocytic anemia associated with vitamin B12 deficiency (less than 180pg/ml).

IBD activity was judged on clinical, biological, endoscopic, histological and/or imaging arguments.

The management of anemia was judged to be effective in view of the disappearance of clinical signs, the normalization of the hemoglobin level and the ferritinemia.

To carry out the work, we used the files of the patients, the register of endoscopy and a sheet of collection of demographic data, the type of IBD, the antecedents, the clinical signs, the biological assessment of iron and inflammatory deficiency, the treatment ongoing and the effectiveness of anemia management after 3 to 6 months.

RESULTS

70 patients with IBD (37 cases of Crohn's disease and 33 cases of ulcerative colitis), 48 patients (68.57%) had anemia. The prevalence of anemia in UC was 72.72% and 64.86% in CD. The average age of our patients is 41.8 years with extremes of 17 and 64 years. The age group 20-40 years is the most affected (45.83%) followed by the age group >40 years (41.67%). The female sex was the most frequent 58.33% against 41.67% with a sexratio of 1.4. The majority of patients had no history (56.25%), appendectomy was the most dominant in Crohn's disease (41.67%) and smoking in UC (16.67%).

According to the effects of covid19 on surveillance, 81.25% of patients with anemia suffered a delay of two months or more without treatment for their disease following confinement or the attack of covid19.

Among the 48 cases of anemia in IBD 79.17% were symptomatic against 20.83% asymptomatic. Physical asthenia in 62.5%, dyspnea on exertion, headaches in 31.25%, dizziness in 20.83%. Digestive signs were dominated by abdominal pain 54.17%, diarrhea 33.33% and 16.67% rectal bleeding in CD, for UC rectal syndrome 62.5%, rectal bleeding 37.5% and 29.17% of abdominal pain. According to the location, the ileocecal form was the most frequent in Crohn's disease 41.67% as well as the fistulizing phenotype 45.83% and left colitis (E2) was the most frequent in UC 45.83%.

According to the degree of anemia 12.5% had severe anemia, 35.42% moderate anemia and 52.08% mild anemia. 56.25% had microcytic anemia, 39.58% normocytic anemia and 04.17% macrocytic anemia.

Regarding the mechanism, 50% had iron deficiency followed by mixed anemia 39.58% then 10.42% of inflammatory origin. 66.67% had a C-reactive protein (CRP) greater than 5 against 33.33% a CRP less than 5 and faecal calprotectin was high in 58.33% while 41.67% had normal calprotectin. IBD was active in 28 patients, i.e. 58.33%.

For the management of anemia 33.33% of patients received a blood transfusion against 66.67% who were not transfused. 54.17% also benefited from injectable iron.

According to the ongoing background treatment of IBD in anemic patients, 25 patients, i.e. 52.08% (16.67% UC and 35.41% CD) were on biotherapy, 18.75% on immunosuppressants (4.17% UC and 14.58% MC) and 5ASAs were used in UC 29.17%.

Anemia was corrected in 45 patients (93.75%) and could not be corrected in 3 patients (6.25%) including 2 cases of Crohn's disease (1 case of ileocolic localization fistulizing operated and 1 case of ileo-colic location plus ano- perineum) and 1 case of UC pancolitis (E3) after 6 to 12 months despite treatment optimization.

CONCLUSION

Our work confirms the high prevalence of anemia during IBD and the covid19 period probably interfered. Inflammatory bowel diseases are chronic diseases whose disabling nature is not simply linked to digestive damage but also to extra-digestive manifestations including anemia. Its treatment is mainly based on the management of the inflammatory disease but also on the correction of anemia to improve the quality of life of IBD patients.

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